

VII. **Abstract**

The Gauss-Rees waveform has many applications including use in a method for identifying an object, the method including the steps of: directing a primary acoustic waveform at
5 the object to produce a nonlinear acoustic effect; receiving a secondary wavelet produced by the nonlinear effect; and processing the received secondary wavelet in identifying the object. The object is identified by composition, image, and preferably both. The object can be concealed in a container, underground, under water, or otherwise.